

PATENT COOPERATION TREATY

PCT

From the INTERNATIONAL BUREAU

NOTIFICATION OF ELECTION
(PCT Rule 61.2)

To:
 Assistant Commissioner for Patents
 United States Patent and Trademark
 Office
 Box PCT
 Washington, D.C.20231
 ETATS-UNIS D'AMERIQUE

Date of mailing (day/month/year) 17 August 2000 (17.08.00)	in its capacity as elected Office
International application No. PCT/DK99/00624	Applicant's or agent's file reference 5753.204-WO, ATG
International filing date (day/month/year) 12 November 1999 (12.11.99)	Priority date (day/month/year) 12 November 1998 (12.11.98)
Applicant NIELSEN, Jack, Bech et al	

1. The designated Office is hereby notified of its election made:

in the demand filed with the International Preliminary Examining Authority on:

05 June 2000 (05.06.00)

in a notice effecting later election filed with the International Bureau on:

2. The election was

was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer A. Karkachi
Facsimile No.: (41-22) 740.14.35	Telephone No.: (41-22) 338.83.38

TENT COOPERATION TREA

From the INTERNATIONAL BUREAU

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NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

Date of mailing (day/month/year) 17 January 2001 (17.01.01)	
Applicant's or agent's file reference 5753.204-WO, ATG	IMPORTANT NOTIFICATION
International application No. PCT/DK99/00624	International filing date (day/month/year) 12 November 1999 (12.11.99)

To: NOVOZYMES A/S Patents Krogshoejvej 36 DK-2880 Bagsværd DANEMARK
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1. The following indications appeared on record concerning: <input checked="" type="checkbox"/> the applicant <input type="checkbox"/> the inventor <input type="checkbox"/> the agent <input type="checkbox"/> the common representative				
Name and Address NOVO NORDISK A/S Novo Allé DK-2880 Bagsværd Denmark	State of Nationality		State of Residence	
	DK		DK	
	Telephone No.			
	Facsimile No.			
2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning: <input checked="" type="checkbox"/> the person <input type="checkbox"/> the name <input type="checkbox"/> the address <input type="checkbox"/> the nationality <input type="checkbox"/> the residence				
Name and Address NOVOZYMES A/S Krogshoejvej 36 DK-2880 Bagsværd Denmark	State of Nationality		State of Residence	
	DK		DK	
	Telephone No.			
	Facsimile No.			
3. Further observations, if necessary: The common representative has been changed accordingly.				
4. A copy of this notification has been sent to: <input checked="" type="checkbox"/> the receiving Office <input type="checkbox"/> the designated Offices concerned <input type="checkbox"/> the International Searching Authority <input checked="" type="checkbox"/> the elected Offices concerned <input checked="" type="checkbox"/> the International Preliminary Examining Authority <input type="checkbox"/> other:				

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer S. De Michiel
Facsimile No.: (41-22) 740.14.35	Telephone No.: (41-22) 338.83.38

PATENT COOPERATION TREATY

PCT

**NOTIFICATION OF THE RECORDING
OF A CHANGE**

(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

Date of mailing (day/month/year) 17 August 2000 (17.08.00)	DANMARK
Applicant's or agent's file reference 5753.204-WO, ATG	IMPORTANT NOTIFICATION
International application No. PCT/DK99/00624	International filing date (day/month/year) 12 November 1999 (12.11.99)

<p>1. The following indications appeared on record concerning:</p> <p><input type="checkbox"/> the applicant <input type="checkbox"/> the inventor <input type="checkbox"/> the agent <input checked="" type="checkbox"/> the common representative</p>			
<p>Name and Address</p> <p>NOVO NORDISK A/S Corporate Patents Novo Alle DK-2880 Bagsværd Denmark</p>	<p>State of Nationality</p>	<p>State of Residence</p>	
	<p>Telephone No.</p> <p>+45 4444 8888</p>		
	<p>Facsimile No.</p> <p>+45 4449 3256</p>		
	<p>Teleprinter No.</p>		

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:				
<input type="checkbox"/> the person	<input type="checkbox"/> the name	<input checked="" type="checkbox"/> the address	<input type="checkbox"/> the nationality	<input type="checkbox"/> the residence
<p>Name and Address NOVO NORDISK A/S Enzyme Business Patents Novo Allé DK-2880 Bagsværd Denmark</p>			State of Nationality	State of Residence
			Telephone No. +45 4444 8888	
			Facsimile No. +45 4449 6080	
			Teleprinter No.	

3. Further observations, if necessary:
The Common Representative's address on the Demand has been considered as a change under Rule 92bis. In case of disagreement, the International Bureau should be notified immediately.

4. A copy of this notification has been sent to:

the receiving Office the designated Offices concerned

the International Searching Authority the elected Offices concerned

the International Preliminary Examining Authority other:

<p>The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland</p> <p>Facsimile No.: (41-22) 740.14.35</p>	<p>Authorized officer</p> <p>A. Karkachi</p> <p>Telephone No.: (41-22) 338.83.38</p>
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CLAIMS

1. A transgenic plant cell transformed with a nucleotide sequence encoding a maltogenic alpha-amylase which, in the cell, is operably linked to elements required for mediating expression of the nucleotide sequence.

2. A transgenic plant cell transformed with a nucleotide sequence encoding a beta-amylase which, in the cell, is operably linked to elements required for mediating expression of the nucleotide sequence.

3. A plant cell according to claim 1 or 2 where said cell is a seed producing plant cell.

15 4. A transgenic seed producing plant cell transformed with a nucleotide sequence encoding a maltogenic alpha-amylase or a beta-amylase which, in the cell, is operably linked to elements required for mediating expression of the nucleotide sequence in the seeds of a plant regenerated from the plant cell.

20 5. The plant cell according to any of claims 1 or 3-4, wherein the maltogenic alpha-amylase has the amino acid sequence shown in SEQ ID NO: 2 or the amino acid sequence set forth in amino acids 1-686 of SEQ ID NO:1.

25 6. The plant cell according to any of claims 1 or 3-4, wherein the maltogenic alpha-amylase has an amino acid sequence having at least 70% identity to SEQ ID NO: 2, preferably at least 75%, 80 %, 85% or at least 90%, e.g. at least 95%, 97%, 98 %, or at least 99%.

30 7. The plant cell according to any of claims 1 or 3-4, wherein the maltogenic alpha-amylase has an amino acid sequence having at least 70% identity to the amino acid sequence set forth in amino acids 1-686 of SEQ ID NO:1, preferably at least 75%, 80 %, 85% or at least 90%, e.g. at least 95%, 97%, 98 %, or at least 99%.

8. The plant cell according to any of claims claim 1 or 3-4, wherein the maltogenic alpha-amylase has an amino acid sequence which is a subsequence of the amino acid sequence of any of claims 4-6, said subsequence e.g. consisting of 10-500 amino acid residues, such as in the range of 10-100 amino acid residues, such as 15-50 amino acid residues.

9. The plant cell according to any of claims 1 or 3-8, wherein the nucleotide sequence hybridizes to the DNA sequence set forth in SEQ ID NO:1 or to the DNA sequence encoding Novamyl harboured in the *Bacillus* strain NCIB 11837 under low stringency conditions, or under medium stringency, more preferably at medium/high stringency or high stringency or even more preferably at very high stringency.

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10. The plant cell according to any of claims 1-9, wherein the nucleotide sequence encoding the maltogenic alpha-amylase or the beta-amylase is derived from a microorganism, preferably a bacterium.

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11. The plant cell according to claim 10, wherein the nucleotide sequence encoding the maltogenic alpha-amylase is derived from the *Bacillus* strain NCIB 11837.

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12. The plant cell according to claim 10, wherein the nucleotide sequence encoding the beta amylase is derived from a strain of *Chlostridium*, such as e.g. *Clostridium thermosulfurgenes* or form a strain of *Bacillus*, such as e.g. a *Bacillus acidopullulyticus*.

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13. The plant cell according to claim 2, wherein the nucleotide sequence encodes a cereal beta-amylase, such as e.g. a barley beta-amylase.

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14. The plant cell according to any of claims 1-13, wherein a seed specific promoter drives the expression of the maltogenic alpha-amylase or the beta-amylase.

15. The plant cell according to any of the preceding claims, wherein the plant is a monocotyledoneous plant, such as, e.g. a cereal.

5 16. The plant cell according to claim 15, which is wheat.

17. The plant cell according to any of the preceding claims wherein the plant is wheat and the maltogenic alpha-amylase is encoded by the DNA sequence shown in SEQ ID NO 1 or the amino 10 sequence acid sequence set forth in amino acids 1-686 of SEQ ID NO:1.

18. A transgenic plant regenerated from a plant cell according to any of the preceding claims and the progeny of said plant.

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19. A transgenic plant according to claim 15 which is a seed producing plant.

20. The plant according to claim 19 which is wheat.

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21. A seed of a plant according to 20 containing the maltogenic alpha-amylase or the beta-amylase in an amount which is effective to delay staling of bread baked from the wheat.

25 22. A vector comprising a nucleotide sequence encoding a maltogenic alpha-amylase or a beta-amylase and one or more regulatory elements enabling the expression of the nucleotide sequence in a plant cell.

30 23. A vector according to claim 22 where said plant cell is a seed producing plant cell.

24. A DNA construct comprising a nucleotide sequence encoding a maltogenic alpha-amylase or a beta-amylase and one or more 35 regulatory elements capable of directing the expression of the nucleotide sequence and preferably to direct secretion of the gene product to the seeds of a seed producing plant.

25. A method of producing a maltogenic alpha-amylase, which method comprises recovery of the amylase from a seed according to claim 21.

5 26. A method of producing a beta-amylase, which method comprises recovery of the amylase from a seed according to claim 21.

10 27. A ground seed preparation containing a maltogenic alpha-amylase or a beta-amylase prepared by grinding a seed according to claim 21.

28. Flour prepared from a ground seed preparation according to claim 27.

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29. Use of a seed according to claim 21 or a seed preparation according to claim 27 for catalyzing an industrial process.

20 30. The use according to claim 29, wherein the industrial process is baking.

31. Use of a seed according to claim 21 or a seed preparation according to claim 27 for the preparation of a dough.

25 32. Use of a flour according to claim 28 in baking.

33. Use of a seed according to claim 21 or a seed preparation according to claim 27 for the preparation of a bread improver composition.

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34. A method for preparing a baked product comprising preparation of a dough from the flour of claim 28 and/or the bread improver composition of claim 33 and baking the product to obtain a baked product.

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

15

Applicant's or agent's file reference 5753.204-WO, ATG	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/DK99/00624	International filing date (day/month/year) 12/11/1999	Priority date (day/month/year) 12/11/1998
International Patent Classification (IPC) or national classification and IPC C12N15/82		
Applicant NOVOZYMES A/S [NOVO NORDISK A/S et al.]		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 6 sheets, including this cover sheet.

This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 4 sheets.

3. This report contains indications relating to the following items:

- I Basis of the report
- II Priority
- III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV Lack of unity of invention
- V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI Certain documents cited
- VII Certain defects in the international application
- VIII Certain observations on the international application

Date of submission of the demand 05/06/2000	Date of completion of this report 06.02.01
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer SCHEFFZYK, I Telephone No. +49 89 2399 8602
	

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/DK99/00624

I. Basis of the report

1. This report has been drawn on the basis of (*substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments (Rules 70.16 and 70.17).*):

Description, pages:

1-27 as originally filed

Claims, No.:

1-22 with telefax of 07/12/2000

Drawings, sheets:

1/1 as originally filed

Sequence listing part of the description, pages:

1-8, as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- the language of publication of the international application (under Rule 48.3(b)).
- the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- contained in the international application in written form.
- filed together with the international application in computer readable form.
- furnished subsequently to this Authority in written form.
- furnished subsequently to this Authority in computer readable form.
- The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/DK99/00624

the description, pages:

the claims, Nos.:

the drawings, sheets:

5. This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N) Yes: Claims 1-22
No: Claims

Inventive step (IS) Yes: Claims
No: Claims 1-22

Industrial applicability (IA) Yes: Claims 1-22
No: Claims

2. Citations and explanations see separate sheet

VI. Certain documents cited

1. Certain published documents (Rule 70.10)

and / or

2. Non-written disclosures (Rule 70.9)

see separate sheet

VII. Certain defects in the international application

The following defects in the form or contents of the international application have been noted:
see separate sheet

VIII. Certain observations on the international application

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/DK99/00624

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:
see separate sheet

SECTION V-----

The subject-matter of present claims appears to be novel since a plant expressing a maltogenic amylase as defined in claim 1 is not described in the available prior art. Present application is characterized in that a maltogenic alpha-amylase which corresponds to Novamyl having the sequence shown in SEQ.ID.NO. 1 is expressed in plant cells to modify the amylase content thereof. The non-transgenic use of Novamyl in the baking industry as an anti-staling agent due to its ability to reduce retrogradation of starch/amylopectin is well-known in the art (see e.g. page 1 of present application). Thus, present application essentially differs from the prior art in that Novamyl is expressed in plant cells, i.e. its transgenic -use is disclosed in present application. Thus, presently claimed subject-matter consists merely in a new use (transgenic) of a well-known material (Novamyl) employing the known properties (anti-staling effect) of that material (cf. also Guidelines PCT, IV 8.8 (A1)(iii)). However, this new use cannot be seen as inventive step establishing feature but merely as an obvious alternative to a person skilled in the art, in particular taking into account that the expression of other heterologous amylase genes in plant cells for the same purpose is also well-known in the art (see e.g. EP-A-0 479359 (1)). Thus, the subject-matter of present claims does not meet the requirements of Art. 33(3) PCT.

SECTION VI-----

WO 99/43793 priority data 27.02.98 filing date 26.02.99 publication date 02.09.99
11.03.98
12.03.98

SECTION VII-----

- 1). No basis can be found in the application as filed for the term "cereal" introduced in newly-filed claims (Art. 34(2)(b) PCT).

- 2). Claims 9 and 14 appear to be redundant in view of claims 8 and 12, respectively.
- 3). Concerning claim 21 it is noted that claim 2 does not define an amylase.

SECTION VIII-----

- 1). The terms "broadly" and "essentially" used in claim 4 are relative terms and thus open to interpretation. Correspondingly, the scope of this claim is unclear (Art. 6 PCT).
- 2). In so far as claim 8 does not define an alpha-amylase the reference of the word "said" is unclear.



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7 : C12N 15/82, 15/55, 5/10, A01H 5/00		A1	(11) International Publication Number: WO 00/29591 (43) International Publication Date: 25 May 2000 (25.05.00)
<p>(21) International Application Number: PCT/DK99/00624</p> <p>(22) International Filing Date: 12 November 1999 (12.11.99)</p> <p>(30) Priority Data: PA 1998 01478 12 November 1998 (12.11.98) DK 60/123,643 10 March 1999 (10.03.99) US</p> <p>(71) Applicant (for all designated States except US): NOVO NORDISK A/S [DK/DK]; Novo Allé, DK-2880 Bagsværd (DK).</p> <p>(72) Inventors; and</p> <p>(75) Inventors/Applicants (for US only): NIELSEN, Jack, Bech [DK/DK]; Ole Olsens Allé 12, DK-2900 Hellerup (DK). KJÆRULFF, Søren [DK/DK]; Kongsdalsvej 47, DK-2720 Vanløse (DK).</p> <p>(74) Common Representative: NOVO NORDISK A/S; Corporate Patents, Novo Alle, DK-2880 Bagsværd (DK).</p>		<p>(81) Designated States: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).</p> <p>Published With international search report. Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</p>	
<p>(54) Title: TRANSGENIC PLANT EXPRESSING MALTOGENIC ALPHA-AMYLASE</p> <p>(57) Abstract</p> <p>A transgenic plant cell expressing a maltogenic amylase (such as Novamyl®) or a beta-amylase; a transgenic plant regenerated from said cell; seeds generated from such plant where said seeds comprise a maltogenic amylase or a beta-amylase and the use of said seeds, optionally in ground form, for catalyzing an industrial process, such as e.g. in baking. The maltogenic amylase providing an anti staling effect in bread produced from the seeds in question.</p>			

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DK	Denmark	LK	Sri Lanka	SE	Sweden		
EE	Estonia	LR	Liberia	SG	Singapore		

INTERNATIONAL SEARCH REPORT

Int'l. Application No
PCT/DK 99/00624

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 C12N15/82 C12N15/55 C12N5/10 A01H5/00

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
 IPC 7 C12N A01H

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category ^a	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	EP 0 781 849 A (SAPPORO BREWERIES) 2 July 1997 (1997-07-02) page 4, line 33 - line 42 ---	2-4, 13-15, 18,19, 22-24,26
X	EP 0 479 359 A (MOGEN INT ;GIST BROCADES NV (NL)) 8 April 1992 (1992-04-08) page 4, line 16 - line 20 ---	2-4, 13-15, 18,19, 22-24,26
Y	WO 91 14772 A (MOGEN INT ;GIST BROCADES NV (NL)) 3 October 1991 (1991-10-03) page 8, line 5 - line 8 ---	1-34 -/-

Further documents are listed in the continuation of box C.

Patent family members are listed in annex.

^a Special categories of cited documents :

- "A" document defining the general state of the art which is not considered to be of particular relevance
- "E" earlier document but published on or after the international filing date
- "L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- "O" document referring to an oral disclosure, use, exhibition or other means
- "P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
18 April 2000	09/05/2000
Name and mailing address of the ISA European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Tx. 31 651 epo nl. Fax: (+31-70) 340-3016	Authorized officer Maddox, A

INTERNATIONAL SEARCH REPORT

Int. J. Appl. Inv. No.

PCT/DK 99/00624

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	WO 91 04669 A (NOVONORDISK AS) 18 April 1991 (1991-04-18) the whole document ----	1-34
P, X	WO 99 43794 A (FRANDSEN TORBEN PETER ;BEIER LARS (DK); NOVONORDISK AS (DK); SVEND) 2 September 1999 (1999-09-02) the whole document ----	34
P, X	WO 99 43793 A (FRANDSEN TORBEN PETER ;BEIER LARS (DK); NOVONORDISK AS (DK); SCHAE) 2 September 1999 (1999-09-02) the whole document ----	34
A	WO 98 18332 A (WORKMAN PACKAGING INC ;SMITH JAMES P (CA)) 7 May 1998 (1998-05-07) the whole document ----	1-34
A	DIDERICHSEN, B., ET AL.: "B. stearothermophilus maltogenic alpha-amylase (amyM) gene, partial cds" EMBL ACCESSION NO:M36539, 30 August 1990 (1990-08-30), XP002135941 the whole document -& SWISSPROT ACCESSION NO:P19531, 1 February 1991 (1991-02-01), XP002135942 ----	1-34
A	EP 0 120 693 A (NOVO INDUSTRI AS) 3 October 1984 (1984-10-03) the whole document ----	1-34
A	WO 97 32986 A (WEISSHEIMER FRIEDR MALZFAB ;SARX HANS GEORG (DE); DIEFENTHAL THOMA) 12 September 1997 (1997-09-12) examples 1-6 ----	1-34
A	BARRO, F., ET AL.: "Transformation of wheat with high molecular weight subunit genes results in improved functional properties." NATURE BIOTECHNOLOGY , vol. 15, no. 12, 1997, pages 1295-1299, XP002135959 the whole document ----	16, 20, 28-34
A	WO 92 01042 A (NOVONORDISK AS) 23 January 1992 (1992-01-23) the whole document ----	25, 26
E	WO 00 08185 A (FROHBERG CLAUS ;HOECHST SCHERING AGREVO GMBH (DE)) 17 February 2000 (2000-02-17) the whole document -----	2-4, 13-15, 18, 19, 22-24, 26

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/DK 99/00624

Patent document cited in search report	Publication date	Patent family member(s)			Publication date
EP 0781849	A 02-07-1997	AU 6319096	A	05-02-1997	
		US 5952489	A	14-09-1999	
		CA 2199158	A	23-01-1997	
		WO 9702353	A	23-01-1997	
EP 0479359	A 08-04-1992	AT 175238	T	15-01-1999	
		AU 656920	B	23-02-1995	
		AU 8651491	A	15-04-1992	
		CA 2072656	A	14-03-1992	
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